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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/678,483

10/02/2003

Michael J. Zipparo

41941-00351

1457

25231

7590

05/26/2005

MARSH, FISCHMANN & BREYFOGLE LLP  
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SUITE 411  
AURORA, CO 80014

EXAMINER

FAYYAZ, NASHMIYA SAQIB

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

877

**Office Action Summary**

Application No.

10/678,483

Applicant(s)

ZIPPARO ET AL.

Examiner

Nashmiya S. Fayyaz

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/30/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, and 9-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller et al (U.S. Patent # 5,267,221). As to claim 1, Miller et al disclose an acoustic transducer array assembly with support member ( backing 27.1/27.2), cable (cable circuit element 19.1/19.2) with plural conductive members (conductors 39) where the conductors are at least partially embedded in backing support member and ultrasound array (25.1/25.2) with elements (13) each being connected to a conductor, see Figs. 2-9 and col. 4, lines 59 et seq. As to claim 2, note Figs. 4/5 embodiments. As to claims 3-4, note figs. 4/5 showing parallel paths of conductors 39 and openings for the conductors. As to claims 5-6, note the Fig. 5 embodiment with layers 37a and 37b with channels for conductors 39. As to claim 7, note col. 6, lines 11-15 or note material 37c for acoustic dampening material. As to claim 9, note that material 37c is in the form of a rod indicating substantially surrounding the conductors 39 as in Fig. 6. As to

claim 10, note materials 37a and 37b in fig.5 being adjoined portions or materials 37c and d being adjoined. As to claims 11-12, designation of portions is evident in noting Figs. 4-9 in which a different conductor extends through a different "portion" and connected to different transducer elements. As to claim 13, note that element 13 has been described as a piezoelectric element, see col. 1, lines 39-41. As to claim 14, note conductive layers 35/43.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. As to claim 8, usage of dampening material of a 1 dB/cm MHz dampening index is not specified. However, it appears that such a dampening

index is old and well-known and Applicant has not illustrated unexpected results. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have determined the proper dampening index required for the field of testing being performed without having performed undue experimentation.

6. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al in view of Palczewska et al (U.S. Patent # 5,920,972). As to claims 15-17, specifics of the piezoelectric layer are not provided in Miller et al. impedance matching at surface 21 is disclosed in col. 1, lines 55-58. However, specifics of the impedance matching as well as a ground member are not specifically given. In a related prior art device, Palczewska et al disclose a multilayer transducer array with piezo layers 12 and 22 and further top the piezo layer with a ground layer 44 and matching layers 45 and 47, see Fig. 3. Inclusion of such an expediency would have been obvious to one of ordinary skill in the art at the time of the invention since Palczewska et al disclose that such layering improves impedance matching, see col. 5, lines 35 -61.

7. Claims 18-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al in view of Ptchelintsev et al- U.S. Patent # 6,546,803. As to claims 18-29, Miller et al disclose the circuit element as a cable but do not illustrate the cable extending or extending to a coupler for connection to an imaging system. In a related prior art device, Ptchelintsev et al disclose a closely

related ultrasonic array transducer 12 with cable 18 extending to a multiplexer coupling to a computer 46 and pulser/receiver used for imaging, see col. 2, lines 18-32 and fig. 2. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have included such a cable coupling to an imaging system since Miller et al disclose "image resolution" in col. 1, lines 45 et seq. As to claim 20, note the cable 18 appears to be flexible and is recited as a coaxial cable. As to claim 21, note there is apparently an electrical connection to the multiplexer 42 suggesting a conductive member. As to claim 22, note claims 1 and 8 rejections. As to claims 23-24, see claim 3-4 rejection. As to claim 25, note claim 5 rejection. As to claim 26, see claim 9 rejection. As to claims 27-29, inclusion of a plurality of cables is depicted in the embodiment of Fig. 9 and therefore usage of plural cables would have been obvious to one of ordinary skill in the art at the time of the invention to have included as an alternative to a single cable as in Ptchelintsev et al.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention. In claim 21, "said carrier layer" lacks antecedent basis.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nashmiya S. Fayyaz whose telephone number is 571-272-2192. The examiner can normally be reached on Mondays and Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



NFayyaz  
Examiner  
Art Unit 2856

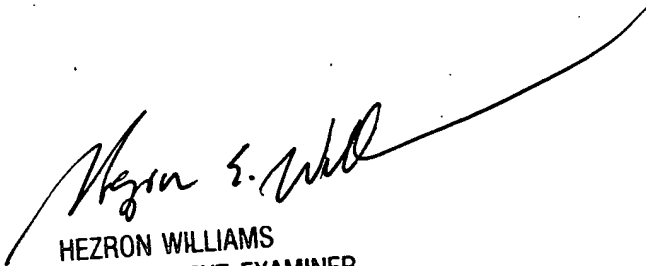
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5/19/05

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
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